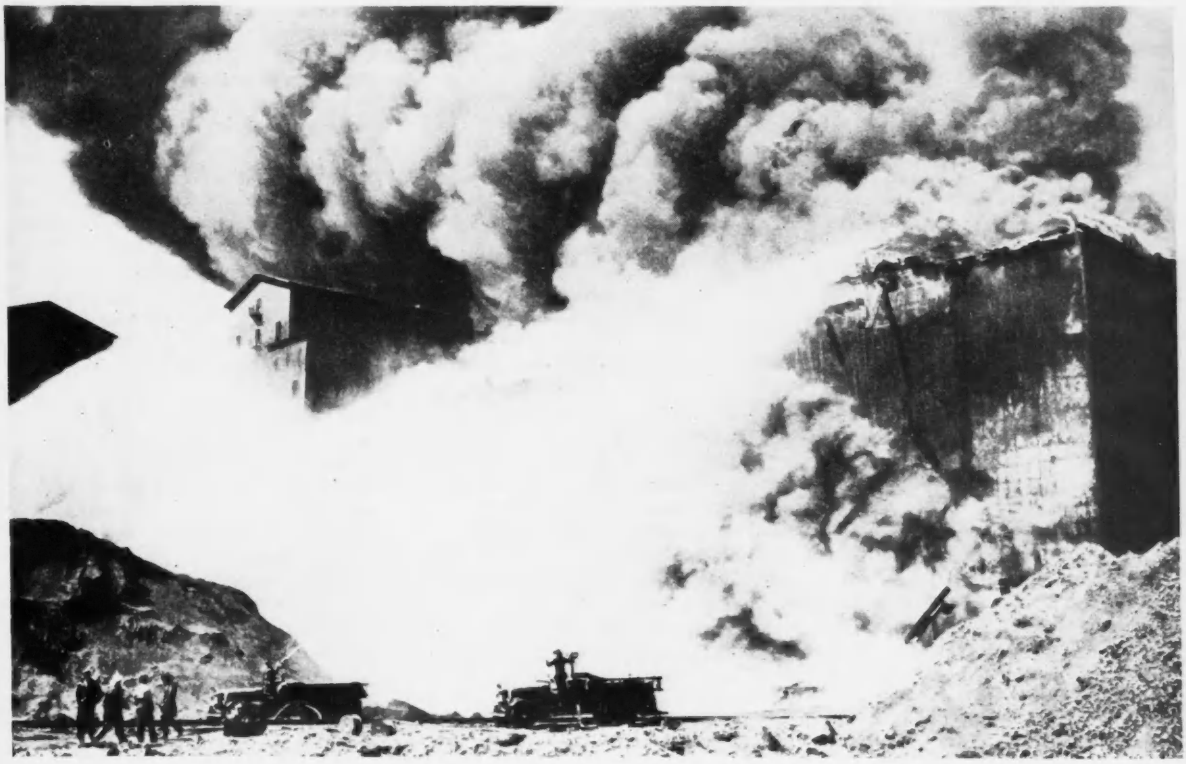
Volunteer Firemen

JULY 1939

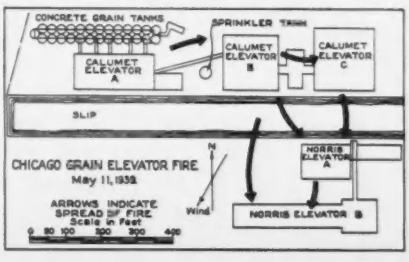
NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston, Massachusetts



MONSTER CHICAGO GRAIN ELEVATOR FIRE

ONE of the largest concentrations of fire fighting equipment and men ever to be assembled at a single fire was unable to save five huge Chicago grain elevators from destruction last May 11. Starting with a dust explosion the fire swept from elevator to elevator leaving nothing but smouldering piles of grain less than five hours afterwards. Nine men were killed in the explosion heard ten miles away, and the total fire damage was about $3,000,000, one of the largest U. S. losses since the Chicago stockyards burned in 1934.

The first explosion occurred in the east part of Calumet Elevator A (see diagram), demolished the building, and communicated to a work house atop the set of concrete grain tanks. Ten employees were in this section of the plant. Two, one of whom later died, managed to escape. Then fire began its rapid spread along gangways and passages and radiated through the air to Calumet Elevator B and C. The sprinkler system in these three buildings was wrecked by the initial blast. The two elevators south of the slip shown on the diagram were not sprinklered and were ignited by radiated heat. All elevators were of old wooden construction covered with corrugated iron. Sheets of this covering, torn off by the draught from the fire, soared hundreds of feet like autumn leaves.



The inaccessible location of the fire handicapped firemen, and relay pumping was necessary. An observer from an airplane reported that about 30 streams were all that were provided by forty pumpers and two fire boats.

Many pumpers took suction from the Calumet River, just east of the fire. Two fire boats in the slip working to prevent the fire's crossing to the Norris buildings were forced to retreat when their heavy streams proved ineffectual. Floating grain frequently clogged their suction screens and reduced their efficiency.

The use of two-way radio, a new fire department aid, was effective in directing the apparatus at the fire. The equipment had been demonstrated at the N.F.P.A. Annual Meeting in Chicago the day before.

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This picture was taken on a Gardiner, Maine, roof after the fire of May 18.

LESS credible to our modern eyes than to those of the ancients is the picture of fire as a demon. Our early ancestors had many times seen disastrous fires wipe out their huddled communities. In such fires it seemed that some evil deity in seven-league boots was treading across the community striding from roof to roof and marking for destruction each place where he left a footprint.

Fire is still visiting communities, even modern ones, in this ancient manner. Wherever a wooden shingle roof exists, there fire can place his footprint. Most villages, towns and cities prohibit wooden shingles from the closely built central section of the community as soon as they adopt an ordinance defining "fire limits." In such limits it is usually specified that buildings have brick walls and that roofs be fire retardant. Many of the regulations which would be applied to business buildings are unnecessary for dwellings in residential sections of the city, but the provision for roofs that won't take fire from a shower of sparks is one which cities must apply to every building in town if reasonable safety from fire is to be obtained. Approximately 600 cities now ban from roofs the conflagration-breeding wooden shingle.

In recent weeks two cities in widely separated parts of the country had practical manifestations that old demon fire could still tramp around leaving footprints.

Luling, Texas

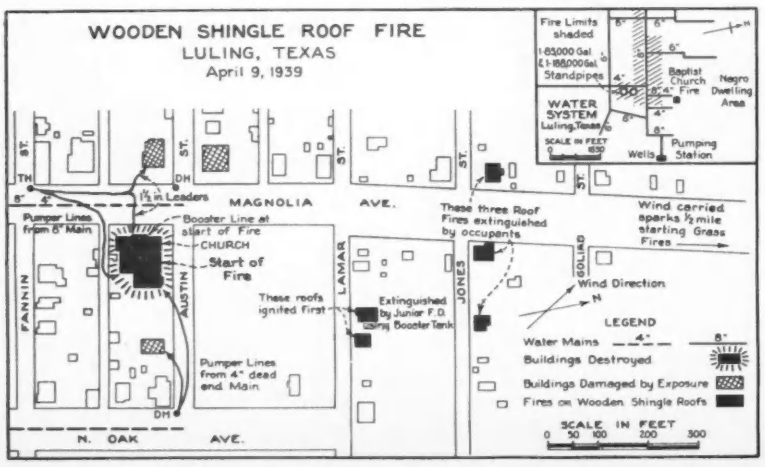
LESS than two years after an ordinance prohibiting wooden shingle roofs had been repealed in the face of protests from the fire department and the fire prevention committees of various civic organizations, Luling, Texas, on April 9 was the near victim of the wholesale destruction of a wooden shingle roof conflagration. An alert fire department that had been watching the particular area of the town for just that fire and had made plans for fighting it long in advance, held the loss to $28,500. A junior fire department of about 18 boys between 15 and 18 years old helped tremendously.

The fire started in the kitchen of a church Sunday school, a hollow tile building with a wooden interior and composition roof covering, and spread through a wooden passageway to the church auditorium. There it mushroomed through the 1½-story area and took to the wooden shingle roof. Flying brands were streaking from the church building on the wings of a strong southeast wind less than an hour after the preacher had concluded his Easter Sermon.

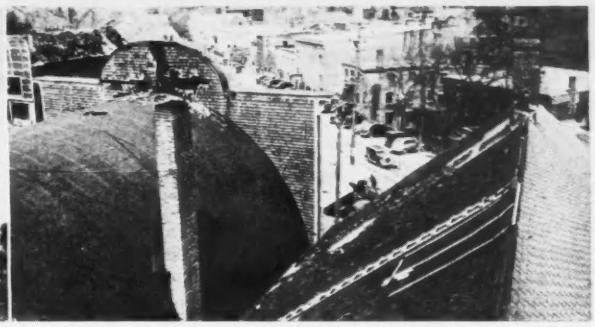
The Luling department responded to the alarm with two 500-gallon pumpers and one booster truck carrying its own water supply of about 310 gallons. Outside aid was called from Seguin, 20 miles west, but their response with a 750-gallon pumper was too late to be a factor in the fire.

The line from the booster truck was taken into the church auditorium as soon as the department arrived. Things had gone too far to fight the fire from within, however, so the line was brought out and played on the south side of the church. The booster pump broke down soon after this, leaving the fire department in a serious position. Roofs were beginning to ignite to the north, out of reach of water mains, and all the available water in the area of the church was being used to prevent exposure fires. The pumper working on the 4-inch dead-end main at the corner of Austin St. and No. Oak Ave. made the best of a very limited water supply by using ¾-inch nozzle tips on its two hose lines. The other pumper was working to capacity from the 8-inch main at the corner of Fannin St. and Magnolia Avenue. The seriousness of the exposure hazard at the start of the fire required the service of nearly every regular member of the department. Several dwellings were badly scorched and pieces of hose burned in two in the street and the department was able to keep the fire from traveling beyond the church buildings on the ground, only with great difficulty. With a broken down booster and no men to fight their fires it looked bad for the wooden shingled dwellings.

It was then that the Junior Fire Department under the command of a department captain brought up an old, discarded pumper with a small booster tank and went to work on the roof



This wooden shingled church in Luling, Texas, is shown sending showers of flying brands and sparks into the stiff wind. It was ignited by fire which sped along the frame passageway between it and the tile Sunday School building on the right. Both these buildings and a frame parsonage, invisible behind the Sunday School, were completely destroyed. Nearby buildings were threatened with exposure fires. Wooden shingle roofs and dry fields blocks away caught sparks and were involved in fires which boy scouts and fire department juniors had a stiff battle to control.



Flying brands, like the mythical fire demon of old, marched across the wooden shingles of Gardiner, Maine. In the extreme upper left is the garage first to catch the sparks of the flaming stable beyond and suffer a serious roof fire. The round roof left of the center is that of the old Gardiner Coliseum Theater. Its composition roof was unburned though showered by sparks which ignited the false wooden shingle front. Lower right is the wooden shingled section of the city hall which was burned through in many places. Other sections failed to show signs of fire.

fires north of the church. By quenching the flying brands that were beginning to rise in turn from the roofs of the two dwellings on Lamar Street they reduced the danger to the three wooden shingle roofs on Jones Street that were already being showered with sparks from the church. The owners of the three homes were able to keep their roof fires under control although it required some fast work. Fortunately the thickly settled area ended at Jones Street and the sparks which flew beyond found only grass to ignite. Boy scouts and other junior department members hurried about extinguishing fires as rapidly as they occurred and protecting oil wells in this area until the rain of sparks was quelled at its origin by the city forces.

Gardiner, Maine

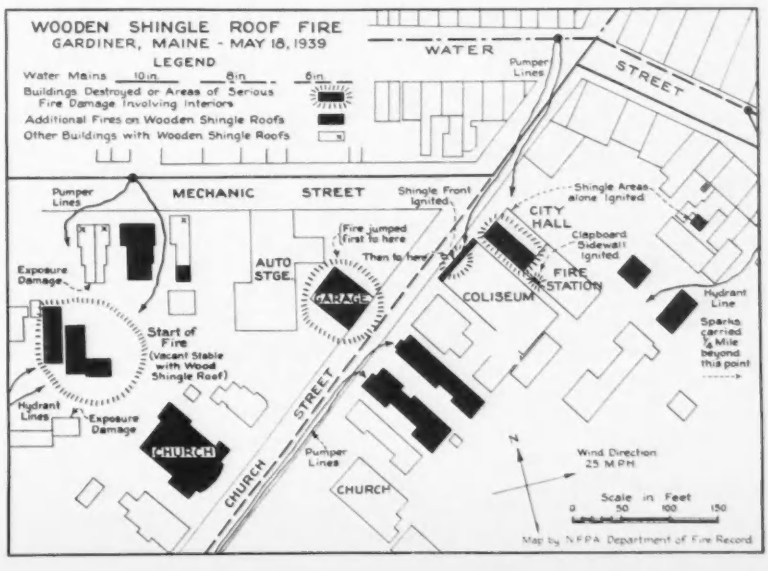
SEVENTY-EIGHT firemen, including the forces of Gardiner, Farmingdale, Randolph, Hallowell and Augusta, and over 100 local business men, high school boys and boy scouts controlled and extinguished a wooden shingle roof fire that threatened Gardiner, Maine, with a major conflagration on May 18. The fire lasted from 6:20 to 8:00 P.M. involving a total of 16 buildings and causing damage totaling about $10,000. Equiment used to extinguish it included four pumpers, 2 hose wagons, 1 hose wagon with booster pump, 1 utility truck, 1 ladder truck, 10 chemical extinguishers and numerous pump tank extinguishers, water buckets and wet cloths.

The fire was started by five men who were engaging in a drinking bout in an abandoned stable that was in the process of being torn down. Two had left the party before the fire and it is believed that one of them dropped a cigarette butt or other remains of a "smoke" into some hay that remained on the floor as he left the building. The other three stayed to be burned to death. The fire must have spread very rapidly throughout the building for it was not discovered until it broke out on all sides at once. The hurrying Gardiner department with but two blocks to go, found the stable already a tower of flames, shedding sparks in the stiff wind which carried them half a mile and deposited them on wooden roofs and sidewalls of buildings in this congested area.

The Gardiner department lacked a pumper pending long delayed delivery of a new one so they approached the stable fire with hydrant lines. A pumper from Randolph, across the Kennebec River from Gardiner, arrived early in the fire and helped get it under control. All other available equipment and men were kept busy extinguishing sparks as they fell on wooden roofs. Roof areas covered with fire-safe roofing were not involved in the fire except where sparks, rolling down the fire station roof, set fire to the clapboarded side-walls.

The city hall, 500 feet from the start of the fire, suffered the greatest damage. Its roof was half wood shingled and half fire safe roofing. The wooden shingles were old and tinder dry. They picked several sparks out of the wind and several little fires got going at once. These fires were extinguished by hose lines, but the holes they had made in the roof let much water through and the city hall interior was damaged to the tune of about $7,000. On other buildings interior equipment was less subject to water damage and loss was less.

Thanks for information used in preparing the accompanying diagrams and stories is due Chief R. O. Muenster of the Luling Fire Department, Chief Frank Lamar of the Gardiner Fire Department, George W. Hawley, Chief Engineer of the Texas State Fire Insurance Bureau and C. W. Lovejoy, State Fire Marshal of Maine.



PREVENTING *Aluminum Explosions*

BRONZE POWDER PLANTS PRESENT UNIQUE FIRE FIGHTING PROBLEM

THE average housewife, if told that the material of which her new saucepan was made was flammable and explosive and capable of blowing her house to bits, would probably greet the teller of such a tall story with an incredulous stare. She probably would not know that aluminum powder forms a large part of the loudest and most destructive fireworks and is the flammable material used in a type of incendiary bomb, most heinous weapon of modern warfare. Her sense of security as she warms up the beans would not be disturbed. Indeed, why should it be, for the hazard of aluminum appears only where the metal is finely divided.

Fire departments charged with the protection of industrial plants that handle powdered or flake aluminum (commonly called bronze or aluminum bronze powder) are not inclined to view the matter so lightly. They know that aluminum fires are spectacular in their intensity and extremely hard to fight. They know, in fact, that ordinary fire fighting in an aluminum plant won't bring the fire under control, may double the loss and involve great life hazard. Aluminum bronze powder, as the flakelike form used in paints and pyrotechnics is called, is as explosive as gasoline if disturbed and set floating in air, and fire departments have this to think of before throwing their usual apparatus into play on a plant containing such treacherous stuff.

The N.F.P.A. Committee on Dust Explosion Hazards this year presents a new Safety Code for the Prevention of Dust Explosions in the Manufacture of Aluminum Bronze Powder. The Committee's unanimous opinion is that the hazards are so great that no occupied building not used in this manufacture should be within 300 feet of powder making buildings The well-known experts on the committee agree that buildings used in powder manufacture should be no more than one story high, have no basements, and be entirely constructed of non-combustible material. They suggest that the roof be of light construction so that, in an explosion, it will blow off before the walls blow out.

Cleanliness and good maintenance are the most important factors in preventing dust explosions, according to the committee, and the code gives a detailed program for assuring them. Fire departments which have aluminum powder factories in their districts and generally carry on regular inspections of the property to make sure that no dust is allowed to accumulate and that all equipment is in good order, could well check individual cases against these recommendations.

Fire fighting methods in small blazes which would prevent explosions of the aluminum dust are also described in the new code. Fine, dry, screened sand is the best known extinguishing agent if it is carefully used. The secret of fighting aluminum powder fires is to avoid stirring up the dust in any way. Therefore, the sand cannot be thrown on the fire. When a fire is discovered burning in such a place that there is little chance of dangerously rapid spread, the sand should be ringed around it taking great care to avoid fanning the dust into the air. The powder, when burning quietly, forms a crust which tends to exclude oxygen and gradually extinguish the fire. Therefore, after the fire has been encircled by sand every care should be taken to avoid disturbing it. Best practice is to close all windows and doors and seal off any draft, then wait for it to burn out.

Water and carbon tetrachloride sprays are often extremely dangerous to use on aluminum powder blazes. They throw dust into the air which may be instantly ignited with explosive violence. Carbon dioxide and foam extinguishers are equally bad. In fact, the committee recommends that no ordinary extinguishers be allowed in an aluminum plant at all, lest they be seized and used by an excited or inexperienced employee during an emergency. The first aid fire protection equipment allowed in an aluminum plant should consist, until new methods are discovered, of an ample supply of dry, fine screened sand kept in covered receptacles of about one barrel capacity each and distributed in convenient locations through the plant. Each receptacle should be labeled with instructions in the use of the contents.

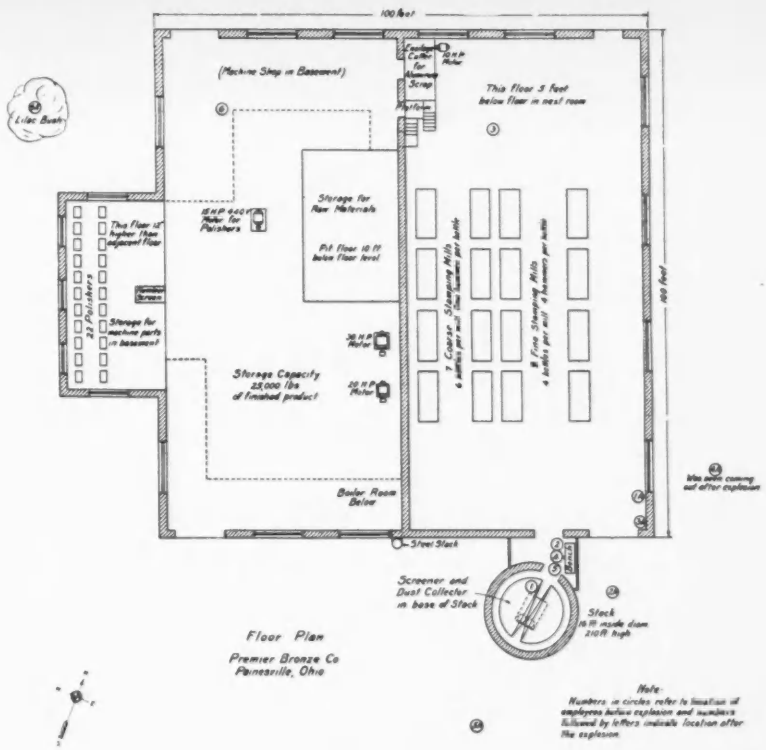
Aluminum dust or powder oxidizes rapidly and is subject to spontaneous ignition. The oxidizing metal creates heat which in turn speeds up the process of oxidation producing more heat until ignition takes place. When water comes into contact with hot aluminum powder the aluminum robs the water of its oxygen content and leaves free hydrogen which is a highly explosive gas. It is especially important, therefore, that water be kept away from aluminum fires.

Three terrific explosions were the result of use of water in a fire that occurred a year ago in a bronze factory in Valleyfield, Quebec. A fire, probably of spontaneous origin, was discovered

Aluminum fires are treacherous. An hour and a half after an explosion of terrific force had destroyed this Painesville, Ohio, bronze powder factory the explosion shown in the picture occurred. Several other explosions were also recorded.

in about 5000 pounds of aluminum flakes stored in open boxes. Employees ringed the fire in sand and had it pretty well under control when the fire department arrived. This department did not know the risks of using water on aluminum fires so they turned their hose streams on the ceiling joists of the building, meanwhile spilling much water on the glowing remains of the aluminum. About half an hour later there was a terrific explosion, probably of hydrogen, that wrecked the building. This explosion sent up clouds of aluminum powder dust in adjoining buildings and there were two dust explosions which finished the plant.

It is important, to prevent such accidents, that each new recruit in any fire department which may be called upon to fight an aluminum powder plant fire either in its own or a nearby town be fully instructed in the peculiarities of aluminum blazes. A demonstration like that shown on the bottom of this page would be convincing and long remembered. Fire departments also sometimes assume the responsibility of calling on plants to make sure that employees are fully informed of the hazards.

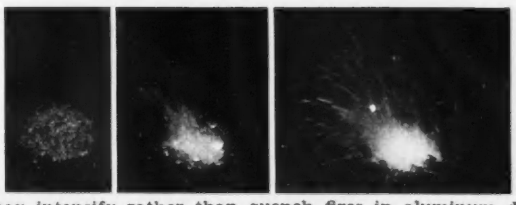

100 feet
(Machine Shop in Basement)
Lilac Bush
Storage for Raw Materials
Pit floor 10 ft below floor level
This floor 3 feet below floor in next room
This floor is higher than adjacent floor
Storage for machine parts in basement
Storage Capacity 25,000 lbs of finished product
Boiler Room Below
Steel Stack
Screener and Dust Collector in base of Stack
Stack 10 ft inside diam. 210 ft high
100 feet
Floor Plan
Premier Bronze Co
Painesville, Ohio
Note:
Numbers in circles refer to location of employees before explosion and numbers followed by letters indicate location after the explosion.

Another fire, illustrating the type of thing that is liable to happen in aluminum plants, occurred several years ago at a bronze powder plant in Painesville, Ohio. Six men, indicated in the accompanying diagram by the numbered circles, were working in the plant. At the time of the fire one man (1) was working in the stack on the south end of the plant which was used to sift and collect aluminum dust. One of the three men (2), (4), and (5) who were working at a bench in the passageway between the stack and the east corner of the plant, dropped a tool which struck a spark from a piece of metal on the floor and ignited some aluminum powder that had accumulated there. A mechanic immediately got one of the pails of sand that was provided for the purpose and, ignoring the warnings of the others at the bench, dumped it directly on the fire. An explosion occurred which scattered the plant, throwing the men in it to the positions numbered (1A)-(6A). One employee (6) survived though he had been blown out with the west wall of the plant and was found cut, burned and shocked in a lilac bush fifty feet away. The story of the fire was obtained from one of the men who had been at the bench. He lived just long enough to tell it.

The Painesville Fire Department knew of aluminum fire dangers. They arrived a few moments after the fire and explosion and wisely made no attempt to pour water on the ruins. They did their best to find any survivors and were able to get three of the men to the hospital. One was found running toward the river with his clothing on fire. Another was found, terribly burned, crawling over the wreckage of the east wall of the plant. Both of these men subsequently died. The third was the survivor found in the lilac bush. Satisfied that there were no further lives that could be saved the department roped off the area of the plant and stood guard until the fire was finally extinguished. The plant was completely destroyed by the first explosion. A number of minor explosions occurred in the ruins at intervals for several hours including a rather severe one (illustrated on the page opposite) which went off an hour and a half after the initial blast.

This disastrous fire occurred even though the plant received the best in maintenance and care. The stamping mills, polishing machines, and screens were electrically grounded to prevent static sparks. Dust proof globes were used to protect the electric lights. The failure to use non-sparking tools as recommended by the N.F.P.A. Committee and a slight accumulation of dust made all these precautions useless and destroyed the plant.

Fire departments, therefore, are not in a position to assume an air of complacency even though their inspections may show general cleanliness and adequate maintenance. Hidden hazards, in this case perhaps accumulations of dust on the trusses in the high ceiling which were dislodged by the initial flash, are apt to have vicious bearing on the result of some human failure. Aluminum bronze powder plants involve hazards that require not only extreme care on the part of everyone connected with the plant in order to prevent fires and explosions, but also preparedness on the part of every employee and every member of the local fire department so they may know how to act if such an emergency arises.



Water may intensify rather than quench fires in aluminum dust or chips. The small pile of aluminum chips on the left was ignited, and burned quietly as shown in the center view. When water was applied it flared up and sent off myriad sparks as shown on the right.

EVIDENCE OF *Arson*

SUGGESTIONS OF A NOTED EXPERT ON HOW TO HANDLE IT

The accompanying text is by Eugene Sanders, Fire Prevention Chief and Assistant State Fire Marshal of Texas. In case of suspected incendiarism, or a fire in which circumstances point clearly to arson, the fire department has certain duties. The officers at the fire must preserve arson evidence, and all members of the department may have to assist in its presentation in court.

SUCCESS in developing a case of arson rests with the fire chief and the personnel of the local fire department in every community to a very large extent. Members of the fire department are generally first to arrive at the fire, and very naturally they are charged with the duty of discovering evidence of incendiarism, when present.

The investigating officers are largely dependent upon members of the local fire department for evidence, facts and circumstances surrounding the fire, and their acts and deeds have a great bearing upon the successful investigation of the incendiary fire.

The Fire Alarm

Record as nearly as possible the exact time the alarm was received. The time of the fire is important in the trial of an arson case. Under the heading of "time" should be included the hour of the fire, the day of the month and the year.

Observations Made by Firemen On Approaching Fire

On approaching the fire the firemen may observe some conditions or indications which lead them to believe the fire to be of incendiary origin. An example of this, for instance, would be heavy black smoke arising from the fire. The firemen can only relate facts, and the jury is left to draw its own conclusions.

A member of the fire department will not be permitted to testify that he noticed a black smoke at the fire and drew the conclusion that the building had been saturated with oil. Nor can he testify that the fire burned exceedingly fast and from his experience as a fireman he is of the opinion that some volatile oil had been used in the fire.

The fireman can testify, however, that he noticed a dense black smoke exactly similar to the smoke from burning oil that he had observed in other fires. He can testify that he noticed a peculiar odor, identical with the odor observed in a garage fire. He can testify that the building burned more rapidly than similar buildings ordinarily burn.

Observations Made by Firemen On Arrival at Fire

On arriving at the fire the firemen should observe if any strangers are there (this applies particularly to small communities), and observe any peculiar action on the part of any person or persons at the fire. Observe whether or not the fire is still confined to the inside of the building. If there is fire on the outside of the building observe the particular place or places it is burning. If burning underneath building, does there appear to be fire on the ground? Observe how fast the building is burning to determine if the fire is being accelerated. It is important to remember whether the odor of gasoline, kerosene, or any other flammable liquid, could be detected from the outside of the building.

Who Entered Building First and How?

It is very important that the fire chief or some firemen know who entered the building first, and how entry was made. Were the doors and windows to building securely locked? If entrance was by force, what means were employed to make entry?

Firemen who arrive early enough to defeat arson attempts often discover trailers like this one calculated to speed the spread of the fire up the stairs or from room to room. This trailer is made of paraffin-soaked paper strips.

In many cases it is important to show that the building was locked, and the owner or occupant had the only keys, therefore he had the exclusive opportunity to set the fire; or, if the fire was set by some one else, that the actual torch must have secured a key from him.

Observations on Entering Building

On entering the building what was the first thing that attracted your attention and aroused your suspicion that the fire was of incendiary origin? What odors, such as gasoline, kerosene or other flammable liquids, common to that class of fire did you smell?

The exact location of the fire in the building is important, and you should be careful to make this observation, if possible. The location of the fire might be such that all possibilities of its having occurred from electricity or a stove would be eliminated. Was there more than one fire? If so, the exact location of each should be determined.

Was there anything to indicate the fire was started by what is commonly known and referred to as a "fire trap"?

Fire Traps and Trailers

Fire traps and trailers are of various kinds and description. The most common fire trap used is the lighted candle set in some flammable material such as excelsior, straw, oily rags, paper and the like. Other fire traps often found are automobile tubes, toy balloons, or similar containers, filled with gasoline, kerosene or other volatile fluid. An electric toaster is another commonly used device, and so is the electric iron, and other electrical devices. The alarm clock rigged up with a battery to create a spark, a soldering iron, a lighted cigarette, are typical devices used to touch off matches or other flammable material. The common lamp or lantern is often so arranged as to be easily tipped over. Trailers consisting of quilts and old clothing, papers, or the like, are often used, and are sometimes touched off by the pilot light on the gas stove.

Gas jets are oftentimes left open as a means of completely destroying the building, and thus causing a complete fire loss.

The arsonist sometimes resorts to special chemicals, but most generally he depends upon materials which can easily be secured such as gasoline, kerosene, fuel oil, benzine, paint remover, stove polish, pyroxylin, alcohol, turpentine, cleansing fluids, and the like.

Where volatile liquids such as gasoline or kerosene have been used, look for containers such as bottles, jugs, and jars.

Close observation should be made concerning household articles and effects. Were there any indications that furniture or other contents had been arranged (prior to the fire) to retard the firemen's progress in combating it? Were there any indications that some furniture or other household articles had been removed before the fire? Some of the common household articles here referred to are as follows:

(1) Furniture;
(2) Pictures;
(3) Silverware and jewelry;
(4) Linens;
(5) Clothes;
(6) Guns;
(7) Clocks;
(8) Rugs;
(9) Cooking utensils;
(10) Canned fruit and vegetables;
(11) Radio and other musical instruments;
(12) Playthings belonging to children;
(13) Quilts and bed clothing.

Clothes closets, wardrobes, and dresser drawers in particular should be closely observed.

It is a common practice for the suspect to remove, prior to the fire, many of the household articles listed.

A thorough examination should be made of attic, and particularly of the wiring, chimneys and flues.

Handling Fire Traps and Other Evidence

If possible, fire traps and other evidence should not be disturbed, nor should they be handled by any person, until the investigating officer arrives and makes his survey, for he should be given an opportunity to have fingerprints and pictures made when possible. If a fingerprint expert or photographer is not available in the community where the fire occurred, it is possible that they can be called in from a neighboring community.

When the investigating officer (such as a member of the state fire marshal's staff) is not available immediately a guard should be placed at the building until he arrives. If the investigating officer cannot be secured for several days, then the fire chief or officer in charge of the fire should preserve all the evidence, and if necessary, call in fingerprint experts and photographer, and do such other things as he deems necessary.

When firemen started to remove the lath and plaster ceiling of the second floor to get at a fire in this apartment building, burning gasoline came streaming down on their heads. The cardboard boxes seen in front of the building were found in the attic after the fire, lined with cellophane and filled with gasoline. There were 250 of these, each containing about four gallons. The attic was also stuffed with oil-soaked excelsior. Though the owner was 65 miles away when the fire broke out, firemen found sufficient evidence in this to convict him of arson and send him to jail for ten years. He later admitted the use of a timing device.

When a picture cannot be taken, it is advisable that a complete sketch be made of the building, indicating the exact location of fire trap or other physical evidence available, and in what room or part of the building it was found. All liquids should be preserved in air tight containers. All materials saturated with gasoline, kerosene, or other volatile fluids, should be put in air tight containers. Evidence of every kind and character should be placed under lock and key and handled only by investigating officers and prosecutors.

Firemen Important Witnesses

Firemen are usually the most important witnesses in the trial of an arson case. Anything that one fireman sees while going to the fire, at the fire, or after the fire, having to do with the fire, should be called to the attention of another fireman, or better still, some person other than a fireman. A jury is more apt to be convinced if the testimony of a fireman is substantiated by a person other than a fireman. Perhaps the reason for this is that all possibility of prejudice is removed from the jury's mind.

Firemen should be careful not to make any statement, or express an opinion, concerning the "cause" of the fire, for to do so will often prove of detriment to the prosecuting attorney in the trial of an arson case.

The trial of an arson case is sometimes delayed for a year or more after the occurrence of the fire. Therefore, it is important that the fireman should reduce to writing his observations made at the fire, or any statements made in his presence concerning the same, and when the case is called for trial he can refresh his memory by referring to his written notations.

Taking Inventory After Fire

It is oftentimes important that an inventory be taken of the contents of the building, and especially of dwellings, for it is a practice on the part of some owners and occupants to try and collect from insurance companies more than the actual loss suffered. When the inventory has been taken and the proof of loss is presented, it can then be determined if there is any attempt to commit fraud. Fraud is a criminal offense, severely punishable.

Notice to Investigating Officers

Prompt notice to the proper investigating officials should be given. Where there is a state or provincial fire marshal charged with the investigation of fires, his department should be called in by telephone or wire if possible. Where there is no state fire marshal, the local police, sheriff or other peace officers should be informed of the fire, and the county or district attorney should be notified.

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SUGGESTIONS OF A NOTED EXPERT ON HOW TO HANDLE IT

The accompanying text is by Eugene Sanders, Fire Prevention Chief and Assistant State Fire Marshal of Texas. In case of suspected incendiarism, or a fire in which circumstances point clearly to arson, the fire department has certain duties. The officers at the fire must preserve arson evidence, and all members of the department may have to assist in its presentation in court.

SUCCESS in developing a case of arson rests with the fire chief and the personnel of the local fire department in every community to a very large extent. Members of the fire department are generally first to arrive at the fire, and very naturally they are charged with the duty of discovering evidence of incendiarism, when present.

The investigating officers are largely dependent upon members of the local fire department for evidence, facts and circumstances surrounding the fire, and their acts and deeds have a great bearing upon the successful investigation of the incendiary fire.

The Fire Alarm

Record as nearly as possible the exact time the alarm was received. The time of the fire is important in the trial of an arson case. Under the heading of "time" should be included the hour of the fire, the day of the month and the year.

Observations Made by Firemen On Approaching Fire

On approaching the fire the firemen may observe some conditions or indications which lead them to believe the fire to be of incendiary origin. An example of this, for instance, would be heavy black smoke arising from the fire. The firemen can only relate facts, and the jury is left to draw its own conclusions.

A member of the fire department will not be permitted to testify that he noticed a black smoke at the fire and drew the conclusion that the building had been saturated with oil. Nor can he testify that the fire burned exceedingly fast and from his experience as a fireman he is of the opinion that some volatile oil had been used in the fire.

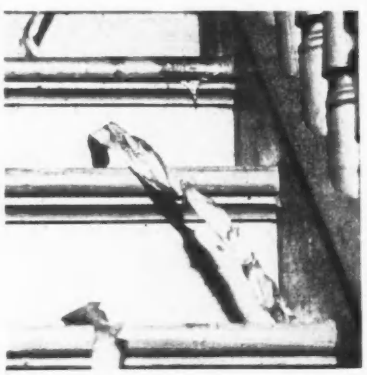
The fireman can testify, however, that he noticed a dense black smoke exactly similar to the smoke from burning oil that he had observed in other fires. He can testify that he noticed a peculiar odor, identical with the odor observed in a garage fire. He can testify that the building burned more rapidly than similar buildings ordinarily burn.

Observations Made by Firemen On Arrival at Fire

On arriving at the fire the firemen should observe if any strangers are there (this applies particularly to small communities), and observe any peculiar action on the part of any person or persons at the fire. Observe whether or not the fire is still confined to the inside of the building. If there is fire on the outside of the building observe the particular place or places it is burning. If burning underneath building, does there appear to be fire on the ground? Observe how fast the building is burning to determine if the fire is being accelerated. It is important to remember whether the odor of gasoline, kerosene, or any other flammable liquid, could be detected from the outside of the building.

Who Entered Building First and How?

It is very important that the fire chief or some firemen know who entered the building first, and how entry was made. Were the doors and windows to building securely locked? If entrance was by force, what means were employed to make entry?



Firemen who arrive early enough to defeat arson attempts often discover trailers like this one calculated to speed the spread of the fire up the stairs or from room to room. This trailer is made of paraffin-soaked paper strips.

In many cases it is important to show that the building was locked, and the owner or occupant had the only keys, therefore he had the exclusive opportunity to set the fire; or, if the fire was set by some one else, that the actual torch must have secured a key from him.

Observations on Entering Building

On entering the building what was the first thing that attracted your attention and aroused your suspicion that the fire was of incendiary origin? What odors, such as gasoline, kerosene or other flammable liquids, common to that class of fire did you smell?

The exact location of the fire in the building is important, and you should be careful to make this observation, if possible. The location of the fire might be such that all possibilities of its having occurred from electricity or a stove would be eliminated. Was there more than one fire? If so, the exact location of each should be determined.

Was there anything to indicate the fire was started by what is commonly known and referred to as a "fire trap"?

Fire Traps and Trailers

Fire traps and trailers are of various kinds and description. The most common fire trap used is the lighted candle set in some flammable material such as excelsior, straw, oily rags, paper and the like. Other fire traps often found are automobile tubes, toy balloons, or similar containers, filled with gasoline, kerosene or other volatile fluid. An electric toaster is another commonly used device, and so is the electric iron, and other electrical devices. The alarm clock rigged up with a battery to create a spark, a soldering iron, a lighted cigarette, are typical devices used to touch off matches or other flammable material. The common lamp or lantern is often so arranged as to be easily tipped over. Trailers consisting of quilts and old clothing, papers, or the like, are often used, and are sometimes touched off by the pilot light on the gas stove.

Gas jets are oftentimes left open as a means of completely destroying the building, and thus causing a complete fire loss.

The arsonist sometimes resorts to special chemicals, but most generally he depends upon materials which can easily be secured such as gasoline, kerosene, fuel oil, benzine, paint remover, stove polish, pyroxylin, alcohol, turpentine, cleansing fluids, and the like.

Where volatile liquids such as gasoline or kerosene have been used, look for containers such as bottles, jugs, and jars.

Close observation should be made concerning household articles and effects. Were there any indications that furniture or other contents had been arranged (prior to the fire) to retard the firemen's progress in combating it? Were there any indications that some furniture or other household articles had been removed before the fire? Some of the common household articles here referred to are as follows:

(1) Furniture;
(2) Pictures;
(3) Silverware and jewelry;
(4) Linens;
(5) Clothes;
(6) Guns;
(7) Clocks;
(8) Rugs;
(9) Cooking utensils;
(10) Canned fruit and vegetables;
(11) Radio and other musical instruments;
(12) Playthings belonging to children;
(13) Quilts and bed clothing.

Clothes closets, wardrobes, and dresser drawers in particular should be closely observed.

It is a common practice for the suspect to remove, prior to the fire, many of the household articles listed.

A thorough examination should be made of attic, and particularly of the wiring, chimneys and flues.

Handling Fire Traps and Other Evidence

If possible, fire traps and other evidence should not be disturbed, nor should they be handled by any person, until the investigating officer arrives and makes his survey, for he should be given an opportunity to have fingerprints and pictures made when possible. If a fingerprint expert or photographer is not available in the community where the fire occurred, it is possible that they can be called in from a neighboring community.

When the investigating officer (such as a member of the state fire marshal's staff) is not available immediately a guard should be placed at the building until he arrives. If the investigating officer cannot be secured for several days, then the fire chief or officer in charge of the fire should preserve all the evidence, and if necessary, call in fingerprint experts and photographer, and do such other things as he deems necessary.

When firemen started to remove the lath and plaster ceiling of the second floor to get at a fire in this apartment building, burning gasoline came streaming down on their heads. The cardboard boxes seen in front of the building were found in the attic after the fire, lined with cellophane and filled with gasoline. There were 250 of these, each containing about four gallons. The attic was also stuffed with oil-soaked excelsior. Though the owner was 65 miles away when the fire broke out, firemen found sufficient evidence in this to convict him of arson and send him to jail for ten years. He later admitted the use of a timing device.

When a picture cannot be taken, it is advisable that a complete sketch be made of the building, indicating the exact location of fire trap or other physical evidence available, and in what room or part of the building it was found. All liquids should be preserved in air tight containers. All materials saturated with gasoline, kerosene, or other volatile fluids, should be put in air tight containers. Evidence of every kind and character should be placed under lock and key and handled only by investigating officers and prosecutors.

Firemen Important Witnesses

Firemen are usually the most important witnesses in the trial of an arson case. Anything that one fireman sees while going to the fire, at the fire, or after the fire, having to do with the fire, should be called to the attention of another fireman, or better still, some person other than a fireman. A jury is more apt to be convinced if the testimony of a fireman is substantiated by a person other than a fireman. Perhaps the reason for this is that all possibility of prejudice is removed from the jury's mind.

Firemen should be careful not to make any statement, or express an opinion, concerning the "cause" of the fire, for to do so will often prove of detriment to the prosecuting attorney in the trial of an arson case.

The trial of an arson case is sometimes delayed for a year or more after the occurrence of the fire. Therefore, it is important that the fireman should reduce to writing his observations made at the fire, or any statements made in his presence concerning the same, and when the case is called for trial he can refresh his memory by referring to his written notations.

Taking Inventory After Fire

It is oftentimes important that an inventory be taken of the contents of the building, and especially of dwellings, for it is a practice on the part of some owners and occupants to try and collect from insurance companies more than the actual loss suffered. When the inventory has been taken and the proof of loss is presented, it can then be determined if there is any attempt to commit fraud. Fraud is a criminal offense, severely punishable.

Notice to Investigating Officers

Prompt notice to the proper investigating officials should be given. Where there is a state or provincial fire marshal charged with the investigation of fires, his department should be called in by telephone or wire if possible. Where there is no state fire marshal, the local police, sheriff or other peace officers should be informed of the fire, and the county or district attorney should be notified.

Volunteer Firemen

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Strafford Wentworth Associate Editor

July, 1939

AT press time word is received from California that a state fireworks law closely approximating N.F.P.A. recommendations has passed both houses of the state legislature and is awaiting Governor Olson's signature. If it is signed California will be the tenth state to take steps to substitute safe, restful and enjoyable holidays for annual orgies of fire and noise. Captain O. J. Emory of the Los Angeles Fire Department, Chairman of the Fire Prevention Committee of the United States Junior Chamber of Commerce, conceived and directed this campaign for the bill in California and he deserves the congratulations of every fire department in the state for his perseverance in their behalf.

The Fourth is now close at hand. Fire departments throughout the land have completed their advance preparations for making the casualty list as short as possible. Yet we can be sure that the morning of July 5 will be spent in bed by thousands of little children and that many, the blind and the dead, will never recognize another sunrise.

If yours is a city without benefit of either state or municipal legislation to protect its citizens from maiming and blinding on this year's Independence Day, you can take advantage of your present tragedies to prevent future ones. There will be children burned in your city. You can arrange to have the local newspaper give these cases front page publicity and treat them strongly in the editorial columns. Then have the editor send an appeal to the state capitol for a state law that will end this nonsense and provide instead for safe public displays, or at least have him ask the city government for an ordinance that will go part way in protecting your city next year.

WITH the arrival of the haying season comes the hazard of spontaneous ignition in farm products, the cause of more than a third of the annual farm fire loss of $100,000,000. The reduction of this huge figure is the volunteers' job and many fire departments with rural areas to protect are cautioning the farmers to be particularly careful with this hazard this summer.

Spontaneous ignition will ordinarily not occur in thoroughly dried and cured farm products. It will occur in wheat, corn, oats, fruits, vegetables, hay, and even straw if any of these remains uncured or damp when it is stored in piles. Therefore the prevention of barn fires depends on the farmer's waiting until his crops are ready before storing them in the barn. Hay in particular should be allowed to dry thoroughly in the field where it is cut before being raked and stacked. Only when the hay is thoroughly dry and cured should it be put in the barn and even then the farmer's vigilance must not end. In case spontaneous heating still occurs he should try to detect it in its earliest stages by regular inspection for hot spots in the hay or odors. If heating is suspected it can usually be detected by lowering a thermometer down inside of a pipe driven into the hay. Most spontaneous ignition fires occur from two to six weeks after the hay is stored and it is particularly important that the farmer watch his barn during this period.

If fire is detected the farmer should be cautioned to avoid disturbing it in any way until the fire department has been summoned and is on the scene ready with hose stream to drown any outbreak. Spontaneous fires invariably originate below the surface and will burn slowly until they break out into the air. Once they have been so released they may flash over the whole pile of hay before a hose stream can be applied. Therefore it is important that this flash take no one unawares.

Fire departments on being summoned to a suspected spontaneous heating fire should check the water supply at the farm involved and be ready to use it to the limit before attacking the fire. If the supply permits, deluge sets should be provided. When everything is ready the hay surrounding the suspected area should be wet down from the outside in and then the fire attacked. After the fire, the salvaged hay should be set aside for complete redrying and should not be stacked again in the barn.

THIS is just a reminder of the many fire schools which will be in operation this summer. Many departments are making arrangements to have a delegation attend the nearest one. If yours hasn't already done so there is still time to take advantage of the opportunity these schools present.

You can get information on what is planned in your territory, from the Firemen's Association, Chiefs' Association, the Fire Marshal's Office, the local insurance inspection department, the state or provincial university or vocational training department.

LAST month 11 departments with 231 men joined the Volunteer Firemen's Section for the first time. In addition 14 departments with 296 men renewed membership. This increases the total enrollment to 663 departments and 14,517 men. The following departments are newly enrolled:

Bessemer Fire Department, Bessemer, Alabama.

Paragould Fire Department, Paragould, Arkansas.

Carpinteria Fire Department, Carpinteria, California.

Coon Rapids Volunteer Fire Department, Coon Rapids, Iowa.

Hope Hook & Ladder No. 1, Opelousas, Louisiana.

Kendall Mills Fire Department, Walpole, Massachusetts.

Begonia Township Volunteer Fire Department, Beulah, Michigan.

Community Engine Company No. 2 Association, Inc., Midland Park, New Jersey.

William C. Edmonds Fire Company, East Otto, New York.

Comber Fire Department, Comber, Ontario.

Defiance Engine and Hose Company, Bristol, Rhode Island.

A Problem Question FOR JULY

Suggested for discussion at company and department meetings this month

92

What first aid should be given to victims of back injuries?

The answer to the problem question for June will be found on page 4.

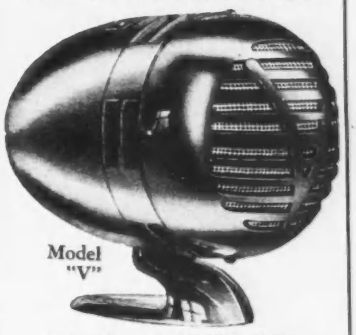
REAL HEAD SAFETY WITH SMART GOOD LOOKS!

The M·S·A FIREMAN'S HELMET

Protection under all circumstances is the first thing you want in a fireman's helmet. And that's where the M.S.A. Fireman's Helmet is supreme. Its molded bakelite construction provides tremendous strength against blows and bumps—insulation against electric shock—and does not deteriorate under the effects of water, oil, chemicals, heat or perspiration. Another prime point—the helmet is not only light and exceptionally comfortable to wear, but in addition has that "on parade" trim smartness of design that appeals to firemen everywhere! Let us arrange an actual demonstration for your department, without obligation of any kind.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS, PITTSBURGH, PA.
District Representatives in Principal Cities

VOLUNTEERS!
Get there FIRST With a FEDERAL VOLUNTEER SIREN



The New VOLUNTEER
Model "V", Chrome, only $15.00
Model "O", Black, only $14.00
"5% Discount for C. O. D. or Cash with Order"

● NOW! A new siren built especially for VOLUNTEERS. Priced low to fit your purse. Its fourfold value in service and protection pays you to invest in this siren. Investigate Now. No obligation.
1. Paves the way to the fire.
2. Protects your car against smash up.
3. Added protection to pedestrians.
4. Gets you there first to save valuable property and lives.

ORDER YOUR SIREN TODAY!

Ask for full particulars in bulletin No. 62

FEDERAL ELECTRIC COMPANY
8717 SOUTH STATE ST., CHICAGO, ILL.

Membership in the N.F.P.A.
for Your Company or Department

Membership with unusual advantages is available to fire companies and fire departments through the Volunteer Firemen's Section of the National Fire Protection Association. Here's the simple plan:

Your company or department applies for regular membership in the N.F.P.A. and pays the minimum $10 annual dues. When the application is accepted, the company or department begins to receive at headquarters the monthly bulletins and publications sent regularly to all members of the Association. Also comes a 100-page *Quarterly* Magazine (four times during the membership year), a volume of annual Proceedings (over 400 pages), a Directory of members, and an Index to printed publications. You thus build up a nice fire library. Membership also places at the disposal of the company or department the Information Service of the Association which from its voluminous files answers special inquiries from members free.

Membership Plan Includes VOLUNTEER FIREMEN for Your Company or Department

The publications and services enumerated above are what regular N.F.P.A. members get for their $10 annual dues. The special membership plan of the Volunteer Firemen's Section provides that *in addition* you get VOLUNTEER FIREMEN magazine for the men in your company or department. (The $10 minimum dues allows you to enroll up to 20 men to receive the magazine: 50c per year extra for each man in excess of 20 enrolled.) VOLUNTEER FIREMEN is mailed to each man's home address.

USE THIS COUPON FOR SPECIAL MEMBERSHIP PLAN

If your company or department is now a member, pass this coupon to some other company or department which might like to enjoy the benefits of this plan.

National Fire Protection Association, 60 Batterymarch St., Boston, Mass.:
Please send me a membership application blank. I am interested in your special membership plan for our company or department.

Name ..... Rank .....
(Chief, Sec'y, Capt., etc.)

Name of Company or Department .....

Address

The "Model A" Super
Which Every Volunteer Fire Department Should Know About

Both 1 Quart and 1½ Quart Sizes

Every volunteer Fire Department should know the exclusive qualities of this first-aid extinguisher which experience shows should be the first to be carried into any fire because:—

FIRST:—
It is safe to use on electrical fires. Fyr-Fyter fluid is not only a powerful fire extinguishing fluid, but a most certain insulation—safeguarding the operator against serious injury or possible death from electrical contact.

AND SECOND:—
It is effective on concealed fires in walls and other "hard to reach" locations and is effective also on fires in greases, oils and the more flammable liquids.

SALESMEN WANTED

If you are interested in adding to your income by spare time work or in building a permanent business for yourself without investment in stock, fixtures, etc., write for our new Dealer's Plan to

THE FYR-FYTER COMPANY
Dept. 20-42 DAYTON, OHIO

Safe with

POWERON

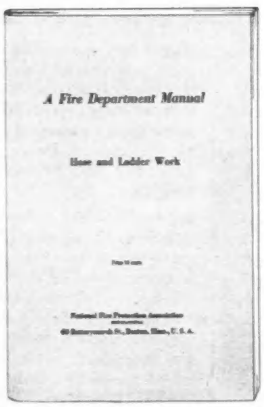
Many fire departments are safeguarding their men with this astounding new nozzle.
Underwriters' approval for Class A (ordinary), B (flammable liquid), and C (electrical) fires.

FREE: Write for detailed pamphlet—"Safe with Poweron"

AMERICAN-LAFRANCE-FOAMITE CORPORATION

20 LaFrance St. Elmira, N. Y.

A New Fire Department Manual



HOSE and LADDER WORK

Fire departments are enthusiastic over this new manual on Hose and Ladder Work. A large number of outstanding drill masters and fire department instructors contributed in its preparation, and all of the principal operations involving hose and ladder work are described in detail.

38 illustrations
64 pages 6 x 9 inches

Single copies .....50 cents.

Put a copy in the hands of every fireman in your department.

National Fire Protection Association
INTERNATIONAL
60 Batterymarch St., Boston, Mass.

$10.00-$3.00-$2.00 EACH MONTH

PYRENE PRIZE LETTER CONTEST

THERE is a whale of a lot of personal satisfaction in having made a good stop with a hand fire extinguisher. You know that you have killed a bad fire without any fuss or water damage and usually the public is surprised to see the good work a hand extinguisher will do. No persons are in a better position to judge the effectiveness of approved fire extinguishers than the fellows who use them. That is why in the Pyrene Prize Letter Contest firemen win cash prizes for telling of actual cases where extinguishers saved a life or made a good stop. To win one of the prizes does not require any fancy writing ability. The judges want to know what type the extinguisher was (carbon tetrachloride, soda-acid, foam, carbon dioxide, calcium chloride, loaded stream or dry chemical). It is not necessary to tell the make of the extinguisher. The contest is open to members of fire departments including organized industrial fire brigades. The contest is sponsored by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN.

FIRST PRIZE—$10.00

F. N. JOHNSON, *Assistant Chief*
Vicksburg Fire Department
Vicksburg, Michigan

Protected Exposed Automobiles

As Assistant Chief of the Vicksburg Fire Department I always carry a one quart, carbon tetrachloride extinguisher in my car. One night, while out riding around a nearby lake, I noticed a large crowd gathered around a dance hall parking lot. Stopping, I found that a car located right in the center of all the cars parked there was on fire inside and was locked. People were standing there with nothing to fight the fire with. They had put in a call for the Vicksburg rural fire truck but it was six miles away and could not arrive soon enough to prevent spread of the fire.

I grabbed my extinguisher from the car and a wrench to break the door glass and gain entrance. It took only a few pumps around the inside to extinguish the fire. The owner of the parking lot was high in his praise, feeling sure that I had prevented loss to surrounding cars which were packed in so tight that it would have been impossible to move them.

SECOND PRIZE—$3.00

LEON ARNOLD
Volunteer Fire Department
Newellton, Louisiana

Filling Station Fire Quenched

One day a few years ago while getting gasoline at a local filling station, I saw a fire extinguisher save its owner from a great loss. The filling station attendant was inside in one room of the two room building repairing an inner tube with a hot patch when I drove up. He rushed out to see what I wanted, leaving the patch burning. While servicing my car he noticed fire in the station and rushed back in to find the whole corner of the room burning. Quickly, he took a large soda-acid fire extinguisher from the other room and turned it on the blaze. The stream was effective and in a few seconds, the fire was out. In fact, it was out so soon that the attendant didn't even call the fire department. The room was easily repaired with a little sandpaper work and a new coat of paint.

THIRD PRIZE—$2.00

NICK LAUGHERY
Fire Department
Pacific Grove, California

Saved Radio and Money

My wife and I were visiting her grandmother who had been away for several months. She had only been home a few hours and had just opened up her house. While we were there some one turned on the radio for the first time. There must have been a short circuit inside, for the instrument burst into flames. Within a few seconds after we had discovered the fire I had jerked out the electric plug, run outside to my car, and returned with a 1½-quart carbon tetrachloride extinguisher which I always keep on hand for such emergencies. A couple of pumps and the fire was out.

This prompt action saved the radio from serious damage by fire. There was no damage done by the extinguisher since carbon tetrachloride does not injure wiring and electrical instruments such as are found in radios. The extinguisher also saved turning in a fire alarm which would have sent heavy apparatus to the house and cost the city several dollars.

HONORABLE MENTION

FRED W. SPRAGUE, *Chief*, Volunteer Fire Department, Roscoe, New York

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.
2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.
3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.
4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.
5. Only one letter may be submitted each month.
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.
7. Letters received after the 8th of the month will be judged in following month's competition.
8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.
9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

RECORDS

A Selection of Forms Useful to Fire Departments

3. Building Record. Here's a card on which the company officer can keep a record of buildings in his district. He would have one card for each important building (cards would not ordinarily be kept for one or two family dwellings or other small buildings). The idea is that this card gives the fire officer a record of extinguishers, standpipes, sprinklers, other protection and a complete history of the building, tells when it was last inspected, for example, and other important information. 8½x11 in.
Price per pkg. of 100 cards.....$3.75

4. Apparatus Inspection Report. This form embodies a list of items to be checked periodically, monthly or oftener. It enables the company officer to report to the chief that his periodic check has been carried out and shows that motor, brakes, battery, oil, tires, and other working parts are in order and that extinguishers have been charged, hose changed and that in all particulars the apparatus is being properly cared for. 8½x11 in., salmon color.
Price per 100 in pads.....$1.75

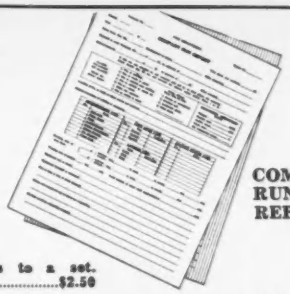
5. Hydrant Record. While the city water utility usually is responsible for the maintenance of hydrants, it is usually necessary for fire company officers to inspect every hydrant twice a year or oftener. This form provides a record of when such inspections or repairs were made, when the hydrant was painted and similar data. There is a place for essential data on location, size, connections, number of turns to open and flow capacity. 5 x 8 in., heavy cards.
Price per pkg. of 100.....$2.00

7. Report of Alarm other than for a Fire in a Building. Alarms where there was no fire, fires in rubbish and grass and fires in automobiles and other vehicles make up a large part of the work of any fire department. Most of these are trivial and promptly controlled. A record of the alarm must be kept but there's no need of loading up files or record books with needless details. This form is for use by the Chief in charge of the fire. He fills it out from the company run reports turned in to him by the officers of companies at the fire. It gives the department secretary the full information he needs to record the alarm in the department journal. 8½x11 in.
Price per 100 sheets in pads.....$2.00

8. Report of a Fire in a Building. Most questions about fires come up with reference to building fires. Here's a 4-page form for making sure all essential data which may be needed now or later is put down at the time of the fire. This record is one you'll be proud to have shown in court—in an arson case, for example. The company officer in whose district the fire occurs fills out the first page of the report. This gives the date, time, location and such data. Then it goes to the chief in charge of the fire, who completes it. There is space for putting in the losses to the building, owner and occupants and to record what fire equipment was used and how the fire was fought. 8½ x 11 in., 4 pages to a set.
Price per 100 sets in pads.....$2.50

COMPANY OFFICERS!

A Record and Report on Every Run Made By Your Company



COMPANY RUN REPORT

Form No. 2, 8½x11 in. 2 sheets to a set.
Price per 100 sets in pads.....$2.50

A written record of every run made by the company may settle important questions which come up as to where the call came from, who ordered the company out, what men were present and what the company did at the fire. This form is in sets of two sheets—a white original and a buff duplicate.

PUBLIC ADMINISTRATION SERVICE
1313 East 60th St. Chicago, Ill.

A Book about Record Forms Showing How to Use Them

A MODEL RECORDS AND REPORTING SYSTEM FOR FIRE DEPARTMENTS

By DeWayne E. Nolting

87 pages, size 8½x11 inches

This book tells the purpose and use, in all, of 27 different record forms used by fire departments. Each form is illustrated in full with details for each on size, color and paper stock. There are 7 other diagrams.

PUBLIC ADMINISTRATION SERVICE
1313 East 60th St. Chicago, Ill.

7. Inspection Blank (for Dwellings or Small Stores). This is a form for the use of men making routine inspections of small properties. It contains a place for the inspector to record what he finds out about the building, its housekeeping, chimneys, heating equipment, flammables stored, electrical and other hazards. The forms are in books arranged so that when filling out an original copy, a carbon copy is made. The carbon copy, a pink sheet, may be given to the owner or occupant. The original, a blue sheet, is kept by the officer or man making the inspection. 5½x8 in., two sheets to a set in books with manila covers.
Price for 100 sets.....$2.00

18. Hose Record. Keep a record of each length of hose purchased and get maximum service from it. There is a place on this card to show when hose was purchased, cost, brand, and name of manufacturer, also a place to record the number of each company to which the hose may be assigned, when tested, and other pertinent information. 5x8 in. heavy cards.
Price per pkg. of 100.....$2.25

27. Statistics of the Fire Department. The sheet is easily filled out on the typewriter and can take the place of a printed annual report for many fire departments, especially those having less than 300 alarms a year. Space is provided to record alarms and fires, losses, equipment used, inspections made and personnel changes in the department. A place is also available for the fire chief's recommendations. When filled out, the sheets contain the data on the fire department's work for the year which should be put on the desk of city, town, county or fire district officials and published in the newspapers. 8½x11 in.
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9 Inspection Blank (in books)	@$2.00 per 100 sets	.....
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The Vitaguard fire alarm system provides the essential features of reliability and speed in the transmission of alarms. After the initial manual operation of pulling a box, the operation is entirely automatic—the alarm is clearly and distinctly sounded throughout the entire fire district by the Diaphone compressed air horn exactly as transmitted by the box and **directs the firemen to the location of fire.**

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PUBLIC ALARM
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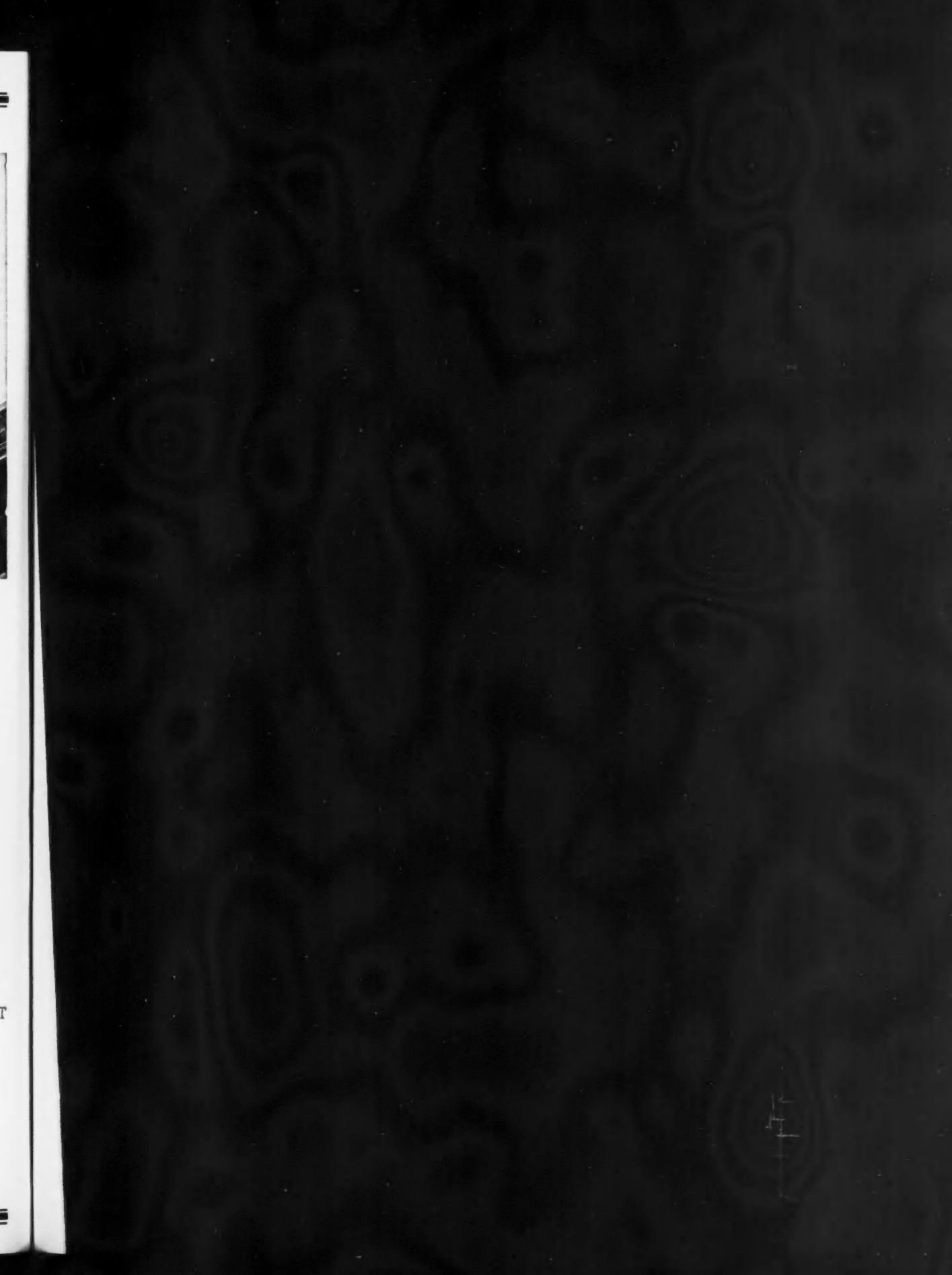
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